Bank Stabilization

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This research addresses the problems associated with unstable river banks. These problems include loss of land and riparian vegetation resources, quantity and quality of fish and wildlife habitat, degraded water quality, and riverine encroachment towards infrastructure. This study is investigating structural methods to stabilize unstable river banks. The structural methods use rock or riprap and include barbs, bendway weirs, and grade control structures.
The primary objective of the study is to collect and analyze field data from existing and new bendway weir and barb installations, such as Muddy Creek, Clark Canyon, Blue River, St. Mary's River, Sun River, and Gila River. This project will cooperate with other Federal agencies that design and install bendway weirs or barbs, as well as private and state entities to share data and analysis.

This research will benefit Regional and Area offices by providing specific design guidance on design and construction of bendway weir and barb bank stabilization structures. These structures are less expensive than traditional riprap revetments. Barbs and bendway weirs produce aquatic habitat, protect and expand banks, collect sediment, and provide areas for riparian vegetation. They are versatile structures, easy to construct, and environmentally conducive to restoration of the stream corridor.

At this point in the study, field data collection is complete on the barb installation at the Muddy Creek Demonstration Stream Restoration project. Analysis of the data is underway. Data from other agencies and private entities experienced in the installation and design of these type of structures continues to be made available.

US Army Corps of Engineers Waterways Experiment Station Coastal and Hydraulics Laboratory; Colorado Department of Transportation; Muddy Creek Task Force; Cascade County Conservation District.